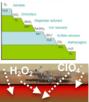## WHY?

- The Martian Subsurface is, if not the only, the most likely place to find evidence of extant life on Mars.
- Exploration has been limited to 2D and it's time to "go deep" into 3D.
- Training ground for Europa/Enceladus exploration.

DRIVERS

Quantify **(1)** the <u>modern Martian subsurface habitability</u> **(2)** search for <u>signs of extant life</u> by following:

- **A. Liquid Water**
- **B. Energy & Nutrients**
- **C. Cellular Stability**
- **D. Biomarkers & Signs of Metabolic Activity**

1. HABITABILITY   2. LIFE

HOW?

<u>Baseline</u>: Insight type lander with EM sounder, drill > 10 m, in-borehole and on ship biogeochemical analysis focused on habitability.
<u>Enhancements</u>: two landers, mobility, drill depth ~100 m, towards life detection instruments.

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